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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/482,859	01/14/00	HAGIWARA	H 511.33114VV4

020457 IM22/0922  
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EXAMINER
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CHU, J

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 09/22/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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# Office Action Summary

Application No.  
**09/482,859**

Applicant(s)  
**HAGIWARA ET AL**

Examiner  
**John Chu**

Group Art Unit  
**1752**



☒ Responsive to communication(s) filed on Aug 31, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-19 is/are pending in the application.

Of the above, claim(s) 10-19 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-9 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☒ received in Application No. (Series Code/Serial Number) 08/229,628.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2 and 6

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1752

### DETAILED ACTION

1. This Office action is in response to the election and IDS received August 31, 2000.
2. Claims 10-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over OHBAYASHI ET AL '391 or ALDRICH ET AL.

The claimed invention is drawn to a semiconductor device, comprising:

Art Unit: 1752

a semiconductor substrate; and a polyimide film overlying the semiconductor substrate, wherein said polyimide film includes a polyimide material formed from an oxydiphthalic acid or acid anhydride thereof as a reactant.

OHBAYASHI ET AL discloses a photosensitive resin composition comprising a polyamic acid (col. 2, lines 63 - col. 6, line 21), an acryl compound having an amino group (col., 6, lines 29-44), an azide compound (col.7, 38 - col. 8, line 48) and a photoinitiator (col. 9, lines 14-20). This disclosure suggests the claimed composition used in the claimed process lacking only an explicit disclosure using a polyamic acid made by an oxydiphthalic dianhydride and a diamine.

It would have been *prima facie* obvious to one of ordinary skill in the requisite art of polyamic acid photosensitive compositions to select an oxydiphthalic dianhydride as disclosed in column 3, line 21 and use it in place of the benzophenone tetracarboxylic dianhydride of the examples and reasonably expect same or similar results as disclosed in the reference.

Motivation is based on the desire to have a photoresist composition that is improved in radiation sensitivity that can give good heat resistance and good edge sharpness.

ALDRICH ET AL discloses a photosensitive composition comprising a polyimide precursor (col. 6, lines 5 - col. 7, lines 48), a photoinitiator (col. 8, line 1-51) and an acryl compound (col. 9, line 20-68). ALDRICH ET AL further teaches that oxydiphthalic anhydride can be used to make the polyamic acid as disclosed in column 7, lines 26-48.

ALDRICH ET AL lacks an explicit example using a polyamic acid as claimed in an example.

Art Unit: 1752

It would have been *prima facie* obvious to one of ordinary skill in the art of photosensitive compositions to substitute the oxydiphthalic acid in column 3, line 21 for the biphenyl tetracarboxylic dianhydride in Example 1 in OHBAYASHI ET AL and reasonably expect same or similar results for good heat resistance and good edge sharpness.

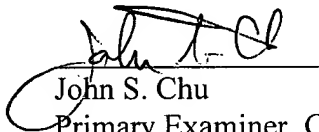
Further it would have been *prima facie* obvious to one of ordinary skill in the art to substitute the oxydiphthalic acid in column 7, line 41 for the biphenyl tetracarboxylic dianhydride in Examples 2 or 30 of ALDRICH ET AL with the reasonable expectation of good image resolution and thermal properties.

Motivation is based on the desire to have a composition which can form patterned images with high heat resistance and good pattern image formation.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (703) 308-2298. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for this Group is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

  
John S. Chu  
Primary Examiner, Group 1700

J.Chu  
September 20, 2000